

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-345204

(43)Date of publication of application : 12.12.2000

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(51)Int.Cl. B22F 3/02  
A63B 53/04

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(21)Application number : 11-161707 (71)Applicant : YAMAHA CORP

(22)Date of filing : 08.06.1999 (72)Inventor : ABE EIJI

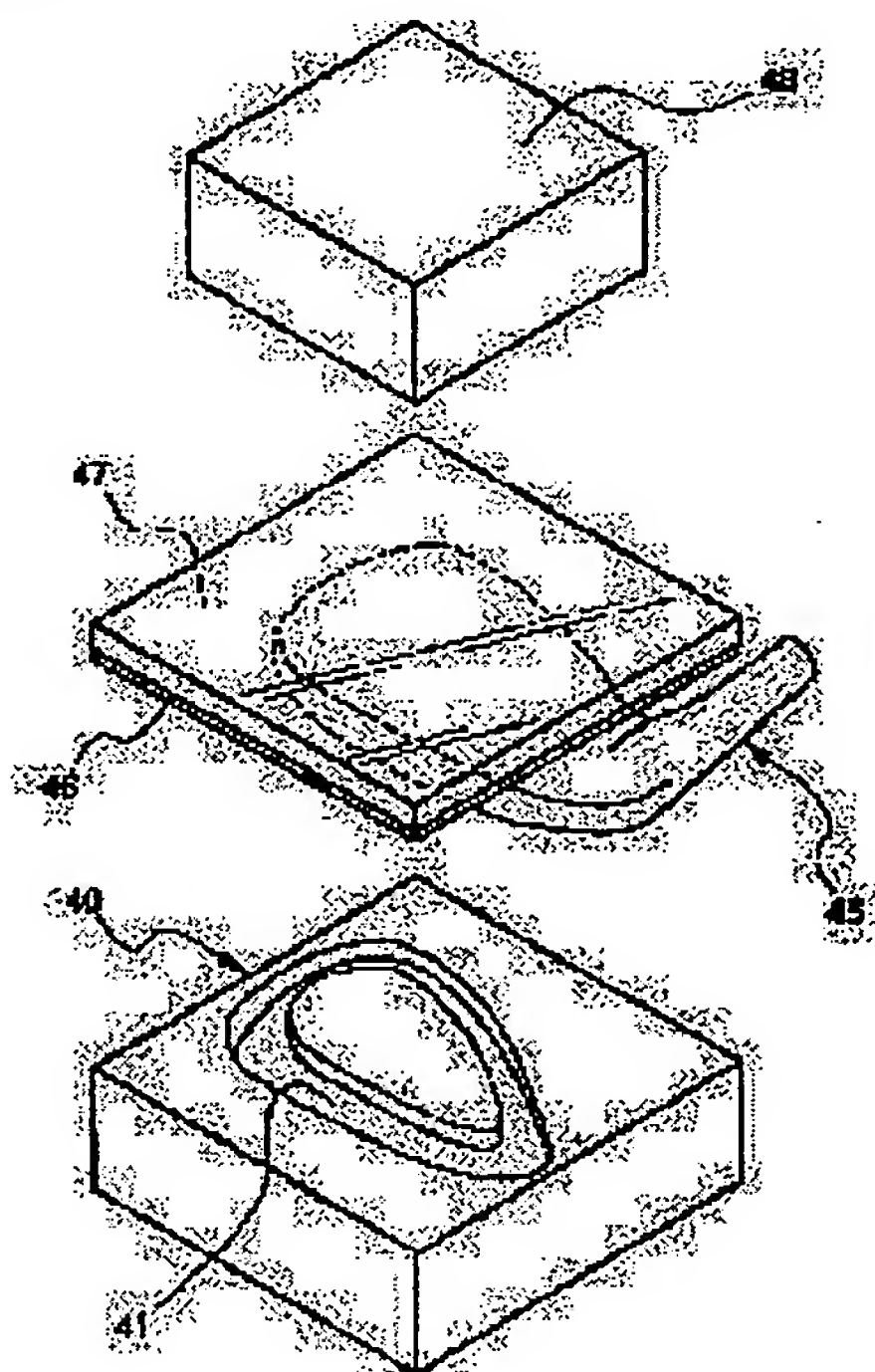
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(54) INJECTION MOLDED ARTICLE OF METAL POWDER OR CERAMIC POWDER, ITS PRODUCTION, GOLF CLUB HEAD AND ITS PRODUCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent occurrence of warpage and distortion in a green body in a drying stage for a green body obtainable by subjecting a compsn. for molding contg. a binder for molding composed of agar and water and at least one kind of powder selected from metal powder, ceramic powder and a powdery mixture thereof to injection molding.

SOLUTION: A center core part (1st member) composed of a material having high specific gravity and a covering member composed of a material having specific gravity lower than that of the material composing the center core part, are separately molded, the combination of the center core part and covering member is arranged in the cavity of a die. A composition for molding contg. a binder for molding composed of agar and water and at least one kind of powder selected from metal powder having specific gravity lower than that of the material with high specific gravity used in the center core part, ceramic powder and a powdery mixture thereof and is injection-molded into the cavity of the die to form into a solid green body 45. In a state in which a part or the whole of the green body 45 is fitted to the recessed part 41 of a warpage modifying jig 40, and after the removal of at least water, sintering is executed.



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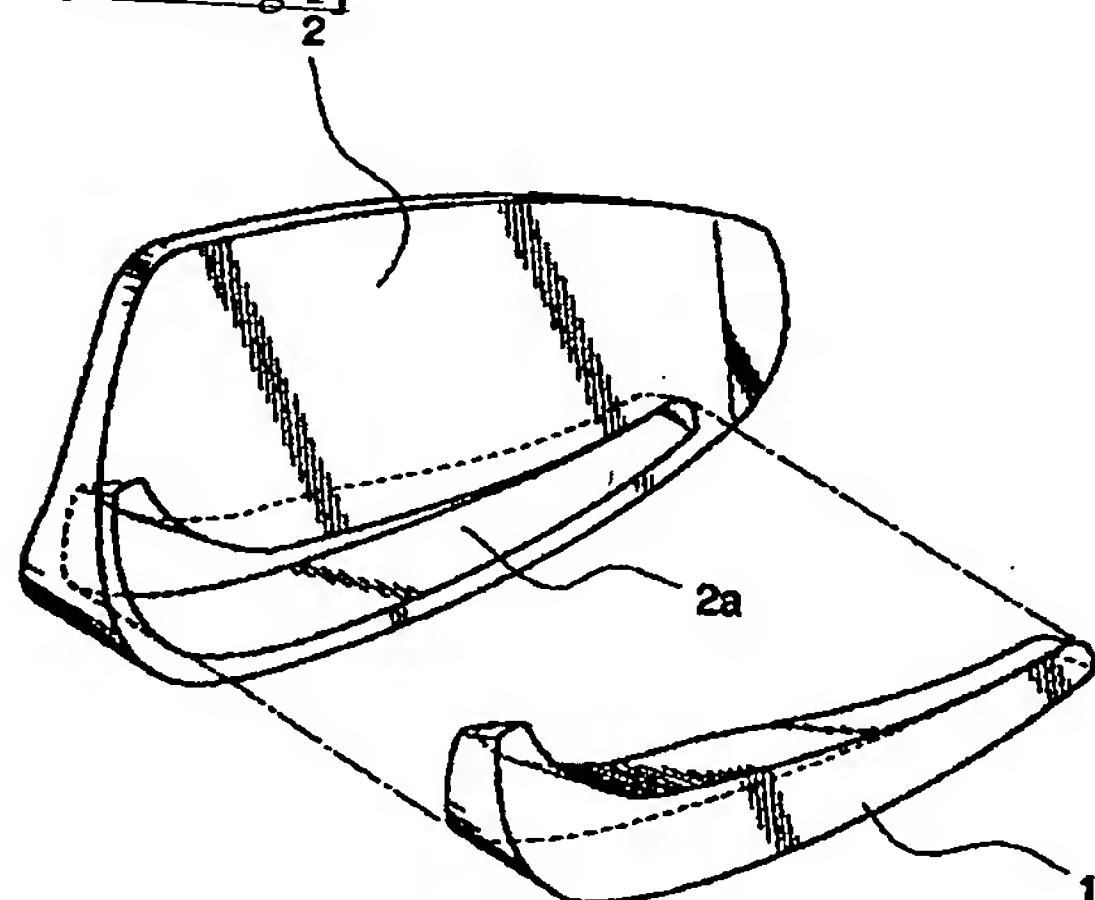
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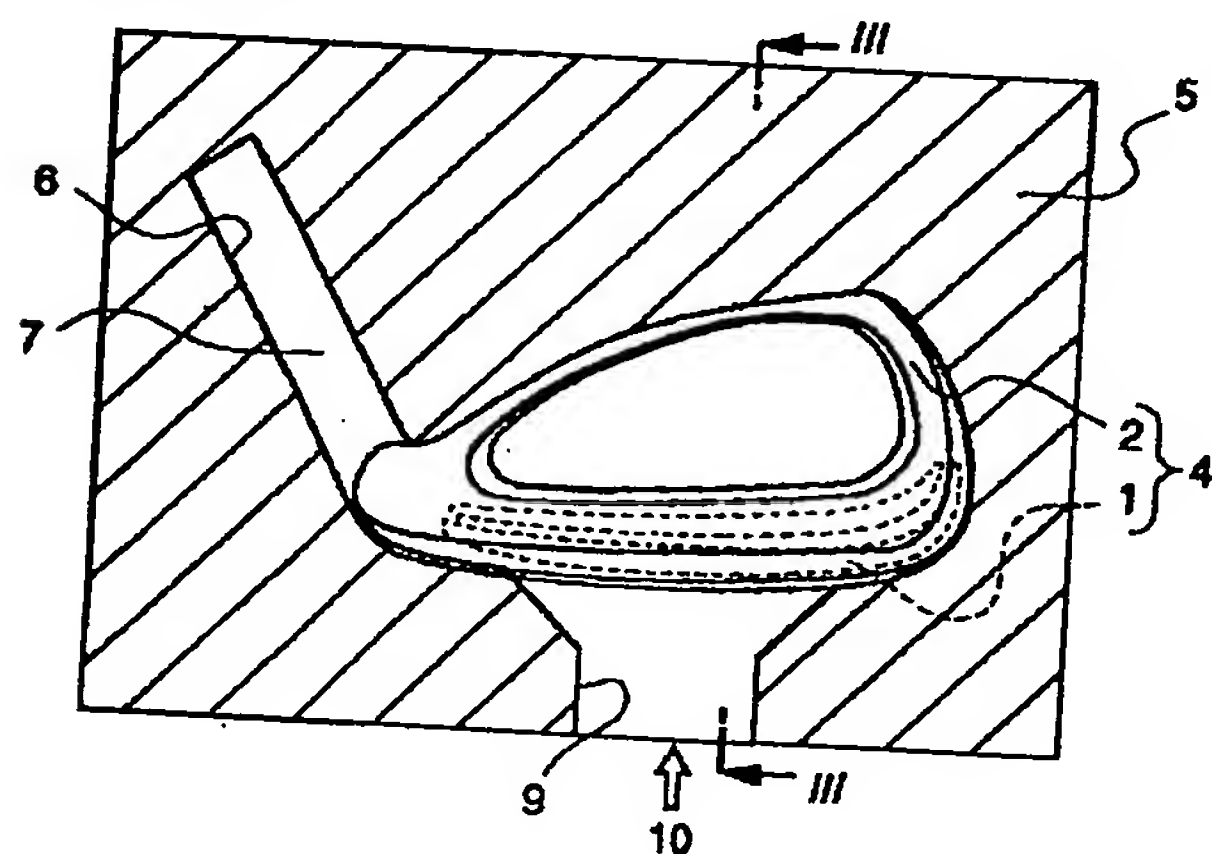
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2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

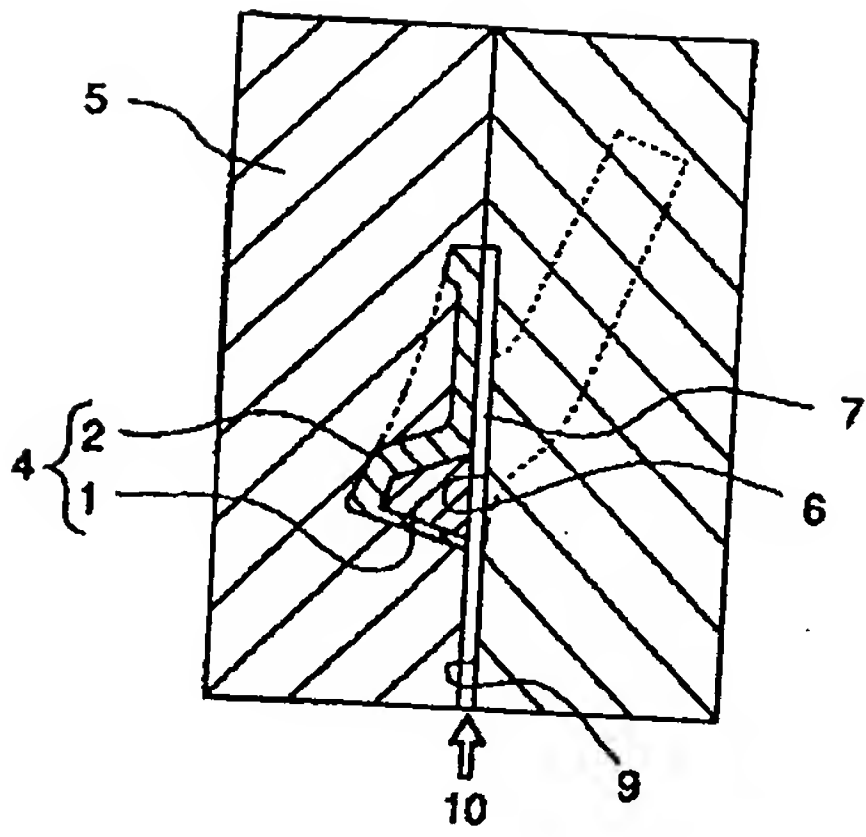
[Drawing 1]



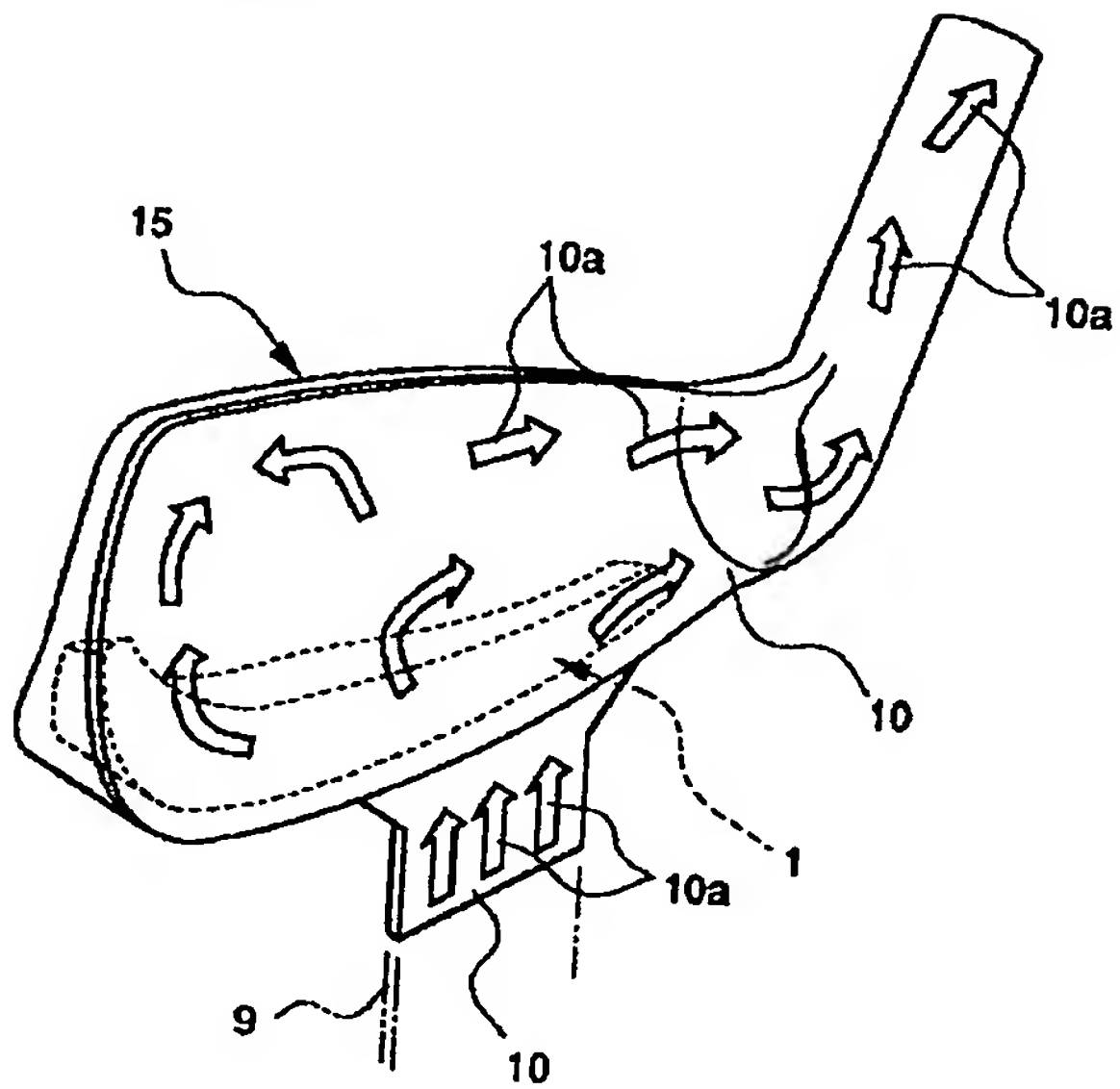
[Drawing 2]



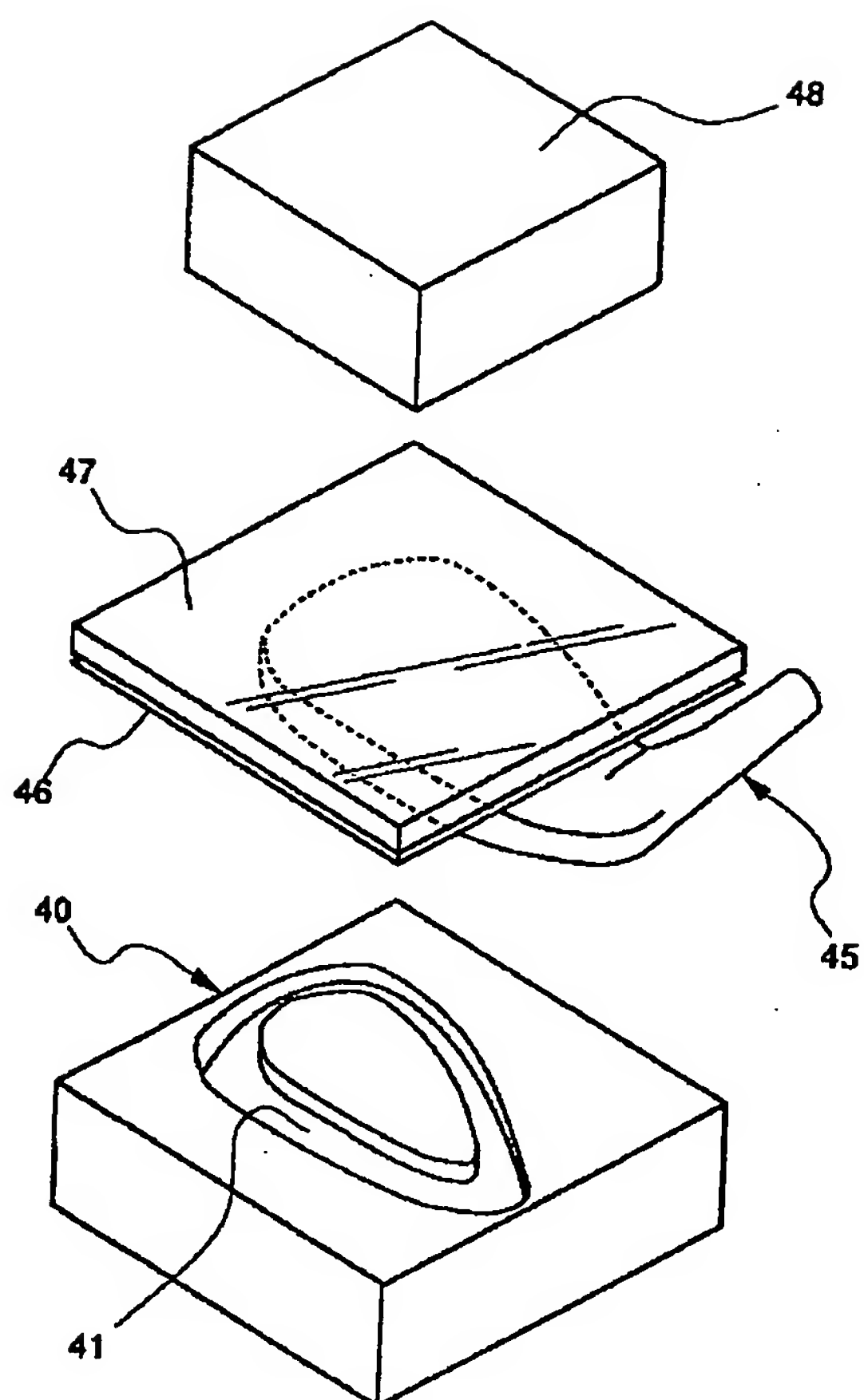
[Drawing 3]



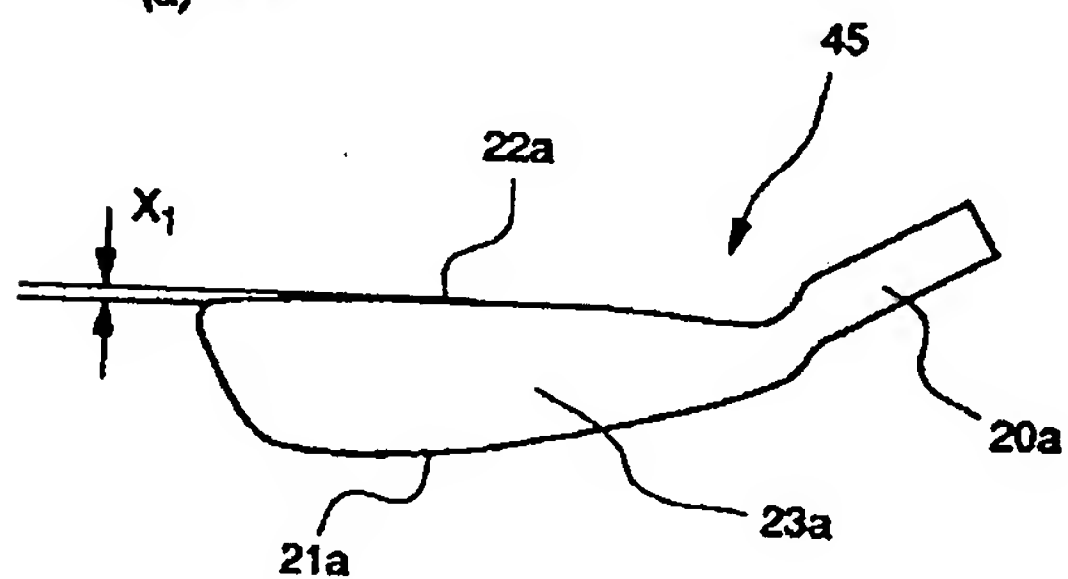
[Drawing 4]



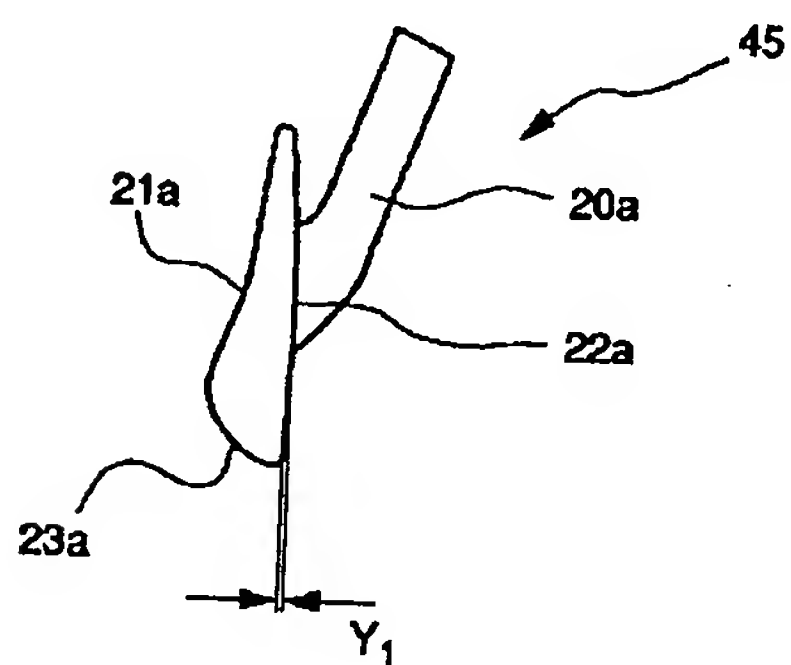
[Drawing 5]



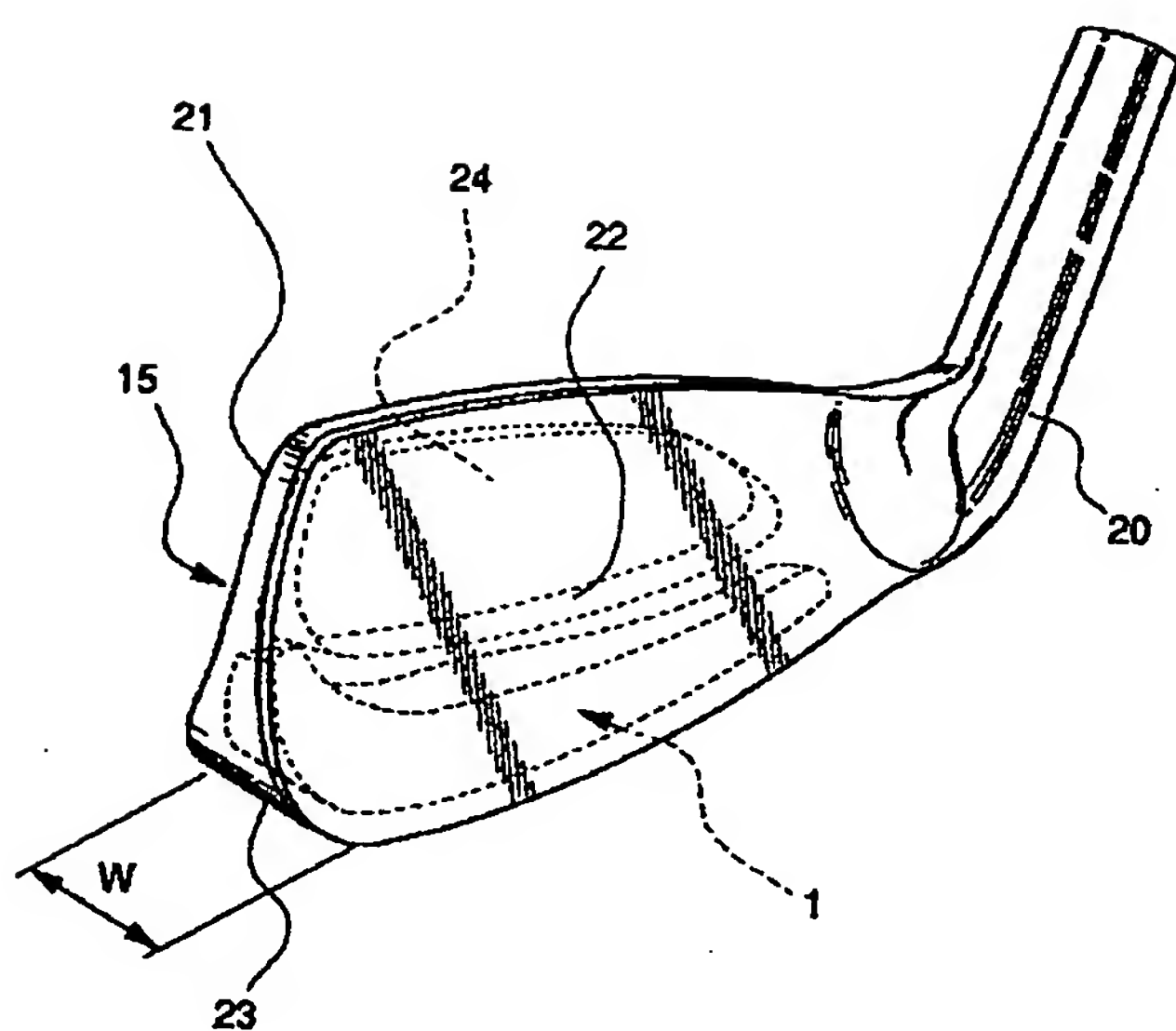
[Drawing 6]  
(a)



(b)

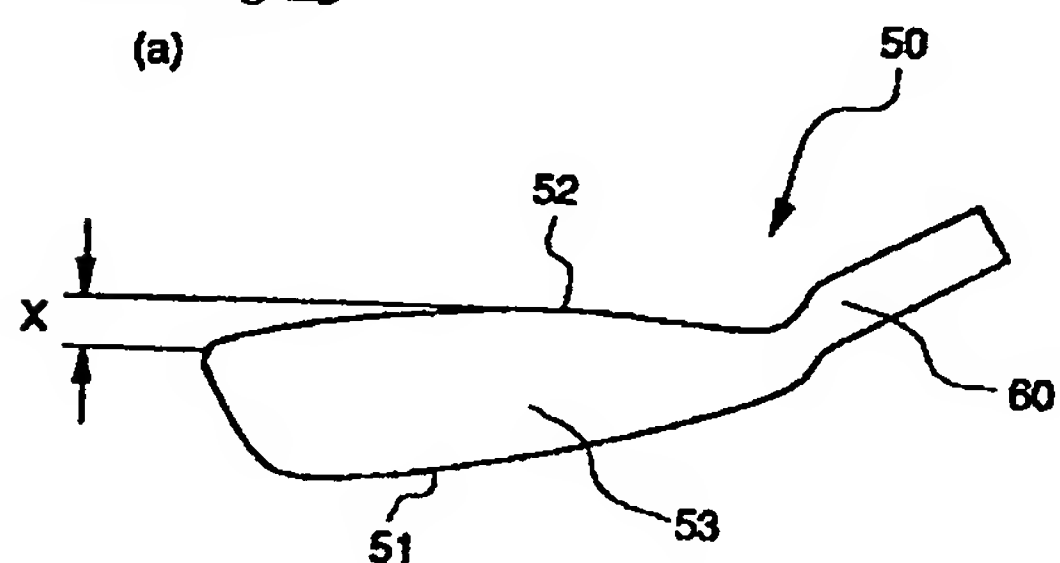


[Drawing 7]

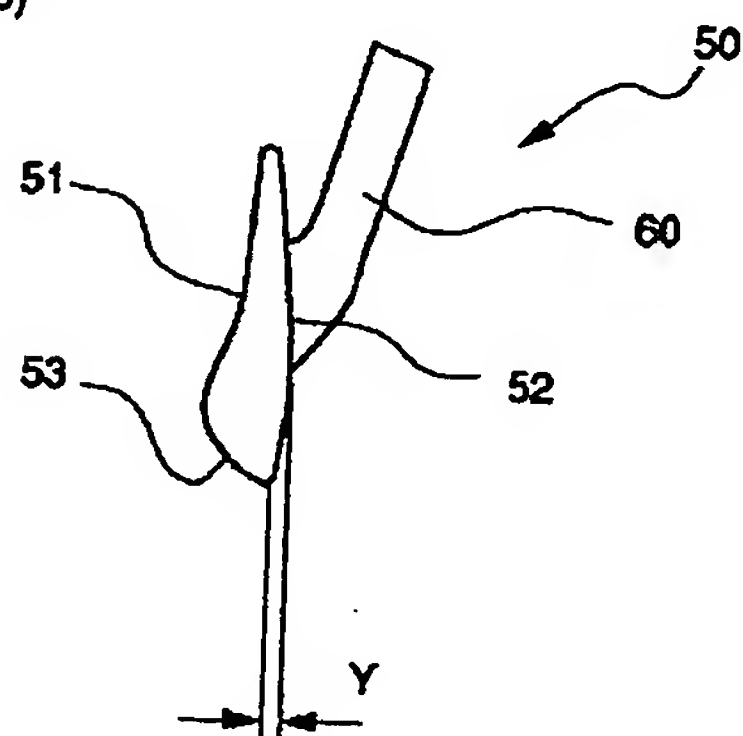


[Drawing 8]

(a)



(b)



[Translation done.]